DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING/CONSTRUCTION PERMIT

Permit No. AQ0060TVP01 Issue Date: October 13, 2003
Application No. AQ00060 Expiration Date: November 30, 2008
Revision 2: August 3, 2005

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50 issues an operating/construction permit to the Permittee, Union Oil Company of California, for the operation of the Dolly Varden Platform.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating/construction permit.

All facility-specific terms and conditions of Air Quality Control Permit-to-Operate 9423-AA012, as amended through November 15, 1995, have been incorporated into this operating/construction permit. All stationary source-specific terms and conditions of Air Quality Construction Permit 060CP01 Rev. 2 have been incorporated into this operating permit revision.

This Operating Permit becomes effective December 1, 2003.

John Kuterbach, Manager

Permits Program

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List of Abbreviations Used in this Permit

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS .....Alaska Statutes
ASTM .....American Society for Testing and Materials
BACT.....Best Available Control Technology
C.F.R. .....Code of Federal Regulations
CO .....Carbon Monoxide
dscf.....Dry standard cubic foot
EPA.....US Environmental Protection Agency
gr./dscf .....grain per dry standard cubic foot (1 pound = 7000 grains)
GPH.....gallons per hour
HAPs or HACs.....Hazardous Air Pollutants or Hazardous Air Contaminants [*HAPs* or *HACs* as defined in AS 46.14.990(14)]
ID .....Source Identification Number
kPa.....kiloPascals
kW.....kiloWatts
MACT.....Maximum Achievable Control Technology
MR&R.....Monitoring, Recordkeeping, and Reporting
NESHAPs .....Federal National Emission Standards for Hazardous Air Pollutants *[NESHAPs* as defined in 40 C.F.R. 61]
NO_X.....Nitrogen Oxides
NSPS .....Federal New Source Performance Standards [*NSPS* as defined in 40 C.F.R. 60]
ppmw.....Parts per million by weight
ppmv .....Parts per million by volume
PS .....Performance specification
PSD .....Prevention of Significant Deterioration
RM .....Reference Method
SIC. .....Standard Industrial Classification
SO_2 .....Sulfur dioxide
TPH.....Tons per hour
tpy .....Tons per year
VOC.....volatile organic compound [*VOC* as defined in 18 AAC 50.990(103)]
wt% .....weight percent

Section 1. Identification

Names and Addresses

Permittee:	Union Oil Company of California P. O. Box 196247 Anchorage, AK 99519-6247
Facility Name:	Dolly Varden Platform
Location:	60˚ 48′ 23.3″ North; 151˚ 37′ 57.7″ West
Physical Address:	Upper Cook Inlet, Alaska
Owner:	Union Oil Company of California P. O. Box 196047 Anchorage, AK 99519-6047
Operator:	Union Oil Company of California P. O. Box 196047 Anchorage, AK 99519-6047
Permittee's Responsible Official	Dale Haines, Unocal Alaska Operations Manager
Designated Agent:	CT Corporation 801 West 10 th Street, Suite 300 Juneau, AK 99801
Facility and Building Contact:	Paul Bartolowits, Foreman Phone: (907) 776-6840 Fax: (907) 776-6845
Fee Contact:	David Bailey Union Oil Company of California P. O. Box 196247 Anchorage, AK 99519-6247 dbailey@unocal.com (907) 263-7694

SIC Code of the Facility:

1311- Crude Oil And Fuel Gas

[18 AAC 50.350(b)(1), 1/18/97]

Section 2. General Emission Information

Emissions of Regulated Air Contaminants, as stated in the application:

Particulate Matter (PM-10), Sulfur Oxides (SO_x), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOCs).

Operating Permit Classifications as described under 18 AAC 50.325:

(1) **18 AAC 50.325(b)(1).** The Dolly Varden Platform site is a facility subject to this regulation because the plant emits or has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant.

(2) **18 AAC 50.325(b)(3).** The Dolly Varden Platform site is a facility subject to this regulation because the turbines, Source ID(s) 12 and 13 in Table 1 are subject to one of the New Source Performance Standards (NSPS) adopted by reference in 18 AAC 50.040(a)-(c).

(3) **18 AAC 50.325(c).** The Dolly Varden Platform site is a facility subject to this regulation because it is a facility described in 18 AAC 50.300(b - e), therefore, it is within the category of facilities subject to AS 46.14.130(b)(4). Dolly Varden is a PSD major facility.

[18 AAC 50.350(b)(1), 1/18/97]

Section 3. Source Inventory and Description

Sources listed in Table 1 have specific monitoring, record keeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

Table 1 - Source Inventory

ID	Tag No.	Source Name	Source Description	Rating/size	Installation Date
1	V-PM-481A	Solar Saturn T-1300 Turbine	Solar Pump Drive#1-Fuel Gas	1,400 Hp	1969
2	V-PM-482A	Solar Saturn T-1300 Turbine	Solar Pump Drive#2- Fuel Gas	1,400 Hp	1969
3	V-PM-483A	Solar Saturn T-1300 Turbine	Solar Pump Drive#3- Fuel Gas	1,400 Hp	1969
4	V-PM-484A	Solar Saturn T-1300 Turbine	Solar Pump Drive#4- Fuel Gas	1,400 Hp	1969
5	V-PM-485A	Solar Saturn T-1300 Turbine	Solar Pump Drive#5- Fuel Gas	1,400 Hp	1969
6	V-PM-486A	Solar Saturn T-1300 Turbine	Solar Pump Drive#6- Fuel Gas	1,400 Hp	1969
7	V-PM-487A	Solar Saturn T-1300 Turbine	Solar Pump Drive#7- Fuel Gas	1,400 Hp	1968
8	V-PM-0021	Solar Saturn T-1300 Turbine	AC#1 Generator Drive- Fuel Gas	800 kW	1969
9	V-PM-0022	Solar Saturn T-1300 Turbine	AC# 2Generator Drive- Fuel Gas	800 kW	1970
10	V-PM-0023	Solar Saturn T-1300 Turbine	AC#3 Generator Drive- Fuel Gas /Diesel	750 kW	1970
11	V-PM-0024	Solar Saturn T-1300 Turbine	AC#4 Generator Drive- Fuel Gas	800 kW	1974
12	V-PM-003A	Solar Centaur T-4500 Turbine	Compressor Drive-Fuel Gas	4,500 Hp	1985
13	V-PM-6370	Solar Centaur T-5900 Turbine	ESP Generator- Fuel Gas	4,230 kW	2002
14	V-PM-0001	Cooper Bessemer Engine	Backup Drive for CB#2- Fuel Gas	3,000 Hp	1969
15	V-PM-0002	Cooper Bessemer Engine	Compressor Drive CB#2- Fuel Gas	3,000 Hp	1970
16	V-B-0001	Ajax Boiler	Glycol Boiler #1- Fuel Gas	8.0 MMBtu/hr	1996
17	V-B-0002	Ajax Boiler	Glycol Boiler #2- Fuel Gas	8.0 MMBtu/hr	1996
18	V-PM-0041	EMD Engine	DC#1 Generator Drive-Diesel	800 kW	1969
19	V-PM-0042	EMD Engine	DC#2 Generator Drive-Diesel	800 kW	1969
20	V-PM-0122	Detroit Diesel 8V71Eng(NE)	East Skagit Crane-Diesel	350 Hp	1989
21	V-PM-0121	Detroit Diesel 8V71Eng(SW)	West Skagit Crane-Diesel	350 Hp	1989
22	V-PM-0494	Detroit Diesel Engine	Fire Pump Drive P-3-Diesel	405 kW	1994
23	V-PM-0031	Detroit Diesel Engine	Detroit Backup Generator-Diesel	400 kW	1994
24	V-PM-6380	Cat. 3306B	Air Compressor Driver-Diesel	265 bhp	2003
25	V-SP-SF/HP/LP	Flare(SF/HP/LP) and Pilot	Safety/Operating Flares	570 MMCF/y	1995

[18 AAC 50.350(d)(2), 1/18/97]

Section 4. Fee Requirements

1. Assessable Emissions. The Permittee shall pay to the department an annual emission fee based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminants that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

1.1 the facility's potential to emit of 2,586.3 tpy; or

1.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

1.3 other methods and calculations approved by the Department.

[18 AAC 50.346(a)(1), 5/3/02 & 50.410, 1/18/97]

2. Assessable Emission Estimates. Emission fees will be assessed as follows:

2.1 no later than March 31 of each year, submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emission Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795, the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates, or

2.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit listed in condition 1.1.

[18 AAC 50.346(a)(1), 5/3/02 & 50.410, 1/18/97]

Section 5. Source-Specific Requirements

Fuel-Burning Equipment

3. Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source ID(s) 1 - 25 listed in Table 1 to reduce visibility through the exhaust effluent by any of the following:

a. more than 20 percent for a total of more than three minutes in any one hour[1],

[18 AAC 50.055(a)(1), 1/18/97 & 18 AAC 50.350(d)(1)(C), 6/21/98]
[40 CFR 52.70, 11/18/98]

b. more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1) & 50.346(c), 5/3/02 & 18 AAC 50.350(d)(1)(C), 6/21/98]

3.1 Monitor, record and report visible emissions in accordance with Section 13.

[18 AAC 50.350(g) - (i), 5/3/02]

4. Particulate Matter. The Permittee shall not cause or allow particulate matter emitted from Source ID(s) 1 - 25 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b) 1/18/97; 18 AAC 50.350(d)(1)(C), 6/21/98 & 18 AAC 50.346(c), 5/3/02]

4.1 Monitor, record and report according to Section 13.

[18 AAC 50.350(g) - (i), 5/3/02]

5. Sulfur Compound Emissions. In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from Source ID(s) 1 - 25 to exceed 500 ppmv averaged over three hours.

[18 AAC 50.055(c) & 18 AAC 50.350(d)(1)(D), 1/18/97 & 18 AAC 50.346(c), 5/3/02]

For Dual-Fuel Fired Equipment Firing Diesel Fuel - Turbine Source ID 10 and Diesel Engines, Source ID(s) 18 - 24

5.1 The Permittee shall do one of the following for each shipment of diesel fuel received:

a. if the fuel grade requires a sulfur content less than 0.5% by weight, keep receipts that specify fuel grade and amount; or

b. if the fuel grade does not require a sulfur content less than 0.5% by weight, keep receipts that specify fuel grade and amount and

[1] For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition and condition 20 will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. The six-minute average standard is enforceable only by the State for Source ID(s) 1 - 25 until 18 AAC 50.055(a)(1), dated May 3, 2002 is approved by EPA into the SIP at which time this standard becomes federally enforceable.

(i) test the fuel for sulfur content; or

(ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.

5.2 Fuel testing under condition 5.1 must follow an appropriate method listed in 18 AAC 50.035 or another method approved in writing by the department.

5.3 If a load of fuel contains greater than 0.75 % sulfur by weight, the Permittee shall calculate SO_2 emissions in PPMV using either Section 15 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

[18 AAC 50.350(g), 1/18/97; 18 AAC 50.350(g) - (i) & 18 AAC 50.346(c), 5/3/02]

5.4 The Permittee shall report as follows:

a. If SO_2 emissions are calculated under condition 5.3 to exceed 500 ppmv, the Permittee shall report under condition 50. When reporting under this condition, include the calculation under Section 15.

b. The Permittee shall include in the operating report required by condition 52

(i) a list of the fuel grades received at the facility during the reporting period;

(ii) for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and

(iii) for fuel with a sulfur content greater than 0.75 percent, the calculated SO_2 emissions in ppmv.

[18 AAC 50.346(c) & 350(g) - (i), 5/3/02]

For Dual-Fuel Equipment Firing Gas, Source ID 10 and Gas-fired Source ID(s) 1 - 9 and 11 - 17

5.5 Monitoring - The Permittee shall analyze a representative sample of the fuel gas semi-annually to determine the hydrogen sulfide concentration using length-of-stain detector tubes per ASTM Methods D4810-88 and D4913-89, or Gas Producer's Association Method 2377-86.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03]
[Operating Permit No. 9423-AA012-amendment #1, 7/29/96]
[18 AAC 50.350(g), 1/18/97]

5.6 Recordkeeping - Record the hydrogen sulfide (H_2S) concentration of the gas required under condition 5.5.

[18 AAC 50.350(h), 5/3/02]

5.7 Reporting

a. Report under condition 50 whenever the H_2S concentration of the gas obtained or analyzed in condition 5.5 exceeds 1,000 ppmv for Source ID 13 and 2,000 ppmv for all other gas fired sources.

b. Attach copies of the records required by condition 5.6 with the operating report required by condition 52.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03]
[18 AAC 50.350(i), 1/18/97]

Operating Conditions for Ambient Air Protection

6. The Permittee shall comply with the following requirement to protect ambient air:

6.1 The maximum hydrogen sulfide (H_2S) content of the fuel gas for Source 13 shall not exceed 1,000 ppmv.

6.2 The maximum H_2S content of the fuel gas for all gas-fired sources other than Source ID 13 on Dolly Varden shall not exceed 2,000 ppmv.

6.3 Monitor, record, and report fuel gas H_2S as set out in conditions 5.5 through 5.7.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03, as amended by this permit]
[18 AAC 50.350(g)-(i), 5/3/02]

7. The Permittee shall not operate Source No. 24 more than 1000 hours per rolling 12-month period.

7.1 Record the total hours that Source No. 24 operates each month.

7.2 Include in the operating report required under condition 52 the 12-month rolling total hours for each month during that reporting period.

7.3 Report operations exceeding 1000 hours per 12-month rolling period according to condition 50.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03, as amended by this permit]
[18 AAC 50.350(g)-(i), 5/3/02]

8. The Permittee shall burn only diesel or distillate fuel with a sulfur content of no greater than 0.5% by weight.

[Operating Permit No. 9423-AA012-amendment #1, 7/29/96]
[18 AAC 50.350(g)-(i), 5/3/02]

8.1 Monitor, record, and report diesel fuel sulfur content as set out in condition 5.4.

8.2 The Permittee shall report under condition 50, if the sulfur content for any shipment exceeds 0.5%

9. The Permittee shall track and report in the operating report required by condition 52, the use of permanent and temporary non-road engines installed after final issue date of this permit that have a size rating greater than 400 Brake Horse Power. Include in the report: the engine's size, serial number and tag number if assigned, and the dates that the engine arrived on the platform, initially started up on-site, finally shut down on-site, and was removed from the platform.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03]
[18 AAC 50.350(g)-(i), 5/3/02]

10. The Permittee shall not exceed the following hours of operation during any consecutive 12-month period:

10.1 For Source ID(s) 20 and 21 -3,000 hours per year each unit.

10.2 For Source ID(s) 22 and 23 -120 hours per year for the purpose of performing routine maintenance and to verify their operational capability.

10.3 Monitor as required by condition 11.1.

[Operating Permit No. 9423-AA012-amendment #1, 7/29/96]
[18 AAC 50.350(d)(1)(D), 1/18/97 & 18 AAC 50.350(g) - (h), 5/3/02]

Operating Hours Monitoring for Source ID(s) 1 - 24

11. The Permittee shall monitor and record the hours of operation of Source ID(s) 1 - 24 for each month.

[Operating Permit No. 9423-AA012-amendment #1, 7/29/96]
[18 AAC 50.350(d)(1)(D), 1/18/97 & 18 AAC 50.350(g) - (h), 5/3/02]

11.1 In the operating report required by condition 52, report the monthly hours of operation for Source ID(s) 1–24. Additionally for Source ID(s) 20 through 23, report the consecutive twelve-month totals for hours of operation for each source through each month during the reporting period.

Federal New Source Performance Standards, Subpart A, for Turbines Source ID(s) 12 and 13

12. **NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of Source ID(s) 12 and 13, any malfunctions of associated air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for Source ID(s) 12 and 13 is inoperative.

[18 AAC 50.040(a)(1), 7/2/00 & 18 AAC 50.350(h), 5/3/02]
[40 C.F.R. 60.7(b), Subpart A, 7/1/02]

13. NSPS Subpart A, Good Air Pollution Control Practice. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate Source ID(s) 12 and 13 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Department will determine whether acceptable operating and maintenance procedures are being used based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of Source ID(s) 12 and 13.

[18 AAC 50.350(h), 5/3/02]
[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.11(d), Subpart A, 7/1/02]
[18 AAC 50.350(d)(1)(D), 6/21/98]

14. NSPS Subpart A, Concealment of Emissions. The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in conditions 16 and 18. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.12, Subpart A, 7/01/01]

15. NSPS Subpart A, Credible Evidence. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in conditions 16 and 18 nothing in 40 C.F.R. Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether Source ID(s) 12 and 13 would have been in compliance with the applicable requirements of 40 C.F.R. Part 60 if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F. R. 60.11(g), Subpart A, 7/1/01

Turbines Subject to NSPS Subpart GG

16. NSPS Subpart GG NO_X Standard. The Permittee shall not allow the corrected exhaust gas concentration of NO_X in ppmv, at 15 percent O_2 and ISO conditions to exceed the following except during startup, shutdown or malfunction periods:

a. Source ID 12- 167 ppmv NO_X

b. Source ID 13- 173 ppmv NO_X

Construction Permit No. 060CP01, Rev. 1, 5/12/03]
[18 AAC 50.040(a)(2)(V), 7/2/00
[40 CFR 60.332(a)(2) and 60.8(c), Subpart GG 7/1/01]

17. NO_X Monitoring, Recordkeeping, and Reporting for NSPS Subpart GG Turbines

17.1 **Periodic Testing**.

a. Initial Periodic Testing. For each turbine subject to condition 16 that operates for 400 hours or more in any 12 month period during the life of this permit, the Permittee shall satisfy either condition 17.1a(i) or 17.1a(ii).

(i) For existing turbines not represented by emission data described in condition 17.1a(ii), the Permittee shall conduct a NO_x and O_2 source test under 40 C.F.R. 60, Appendix A-7, Method 20 within three years after issuance of this permit

1. for each turbine, or

2. on one turbine to represent a group of turbines, if allowed to do so under condition 17.2.

(ii) If a test following 40 C.F.R. 60, Appendix A-7, Method 20 or following another protocol approved by the Department has been conducted on a turbine within two years before the issuance date of this permit, and the test shows that emissions at maximum load are less than 90 percent of the emission limit in condition 16, then

1. the Permittee may use those test results to represent emissions from that turbine or for a group of turbines if allowed under condition 17.2 until the testing of condition 17.1a(ii)2 is performed; and

2. the Permittee shall conduct a Method 20 test on each turbine, or on one of a group of turbines as allowed under condition 17.2, within the 5 years of the permit term.

b. **Higher Tier Testing.** For each turbine with test results under condition 17.1a that are 90 percent or more of the emission limit of condition 16, or for which emissions will equal or exceed 90 percent of the emission limit at maximum load, as shown through condition 17.3, the Permittee shall conduct an additional Method 20 test for the turbine within one year of the test under condition 17.1a. The Permittee shall conduct at least one additional test per year until at least two consecutive tests show that emissions for the turbine are less than 90 percent of the limit at loads up to maximum load.

17.2 **Substituting Test Data.** The Permittee may use a Method 20 test under conditions 17.1a or 17.1b performed on only one of a group of turbines to satisfy the requirements of those conditions for the other turbines in the group if

a. the Permittee demonstrates that test results are less than 90 percent of the emission limit of condition 16 and are projected under condition 17.3 to be less than 90 percent of the limit at maximum load;

b. for any source test done after the issuance date of this permit, the Permittee identifies in a source test plan under condition 42.

(i) the turbine to be tested;

(ii) the other turbines in the group that are to be represented by the test; and

(iii) why the turbine to be tested is representative, including that each turbine in the group

1. is located at a facility operated and maintained by the Permittee;
2. is the same family and make and has the same injector and combustor designs; and
3. uses the same fuel type; and

c. for any source test done before the issuance date of this permit and used under condition 17.1a(ii), the Permittee

(i) demonstrates why the test results are representative of emissions from the entire group of turbines, including that each turbine in the group

1. is located at a facility operated and maintained by the Permittee;
2. is the same family and make and has the same injector and combustor designs;
3. uses the same fuel type; and

(ii) submits all results of source testing that has been performed by the Permittee on each turbine in the group, regardless of the date of the test, and certifies that the submittal is complete, consistent with 18 AAC 50.205.

17.3 Load.

a. The Permittee shall conduct all tests under condition 17.1 in accordance with 40 C.F.R. 60.335(c)(3), except as otherwise approved in writing by the Department, or by EPA if the circumstances at the time of the EPA approval are still valid. For the highest load condition, if it is not possible to operate the turbine during the test at maximum load, the Permittee will test the turbine when operating at the highest load achievable by the turbine under the ambient and facility operating conditions in effect at the time of the test.

b. The Permittee shall demonstrate in the source test plan for any test performed after the issue date of this permit whether the test is scheduled when maximum NO_x emissions are expected.

c. If the highest operating rate tested is less than the maximum load of the tested turbine or another turbine represented by the test data,

(i) for each such turbine the Permittee shall provide to the Department as an attachment to the source test report

1. additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and

2. a demonstration based on the additional test information that projects the test results from condition 17.1 to predict the highest load at which emissions will comply with the limit in condition 16;

(ii) the Permittee shall not operate any turbine represented by the test data at loads for which the Permittee's demonstration predicts that emissions will exceed the limit of condition 16;

(iii) the Permittee shall comply with a written finding prepared by the Department that

1. the information is inadequate for the Department to reasonably conclude that compliance is assured at any load greater than the test load, and that the Permittee must not exceed the test load;

2. the highest load at which the information is adequate for the Department to reasonably conclude that compliance assured is less than maximum load, and the Permittee must not exceed the highest load at which compliance is predicted, or

3. the Permittee must retest during a period of greater expected demand on the turbine; and

(iv) the Permittee may revise a load limit by submitting results of a more recent Method 20 test done at a higher load, and, if necessary, the accompanying information and demonstration described in condition 17.3c(i); the new limit is subject to any new Department finding under condition 17.3c(iii) and

d. In order to perform a Method 20 emission test, the Permittee may operate a turbine at a higher load than that prescribed by condition 17.3c.

e. For the purposes of conditions 17.1a through 17.5, maximum load means the hourly average load that is the smallest of

(i) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;

(ii) the highest load allowed by an enforceable condition that applies to the turbine; or

(iii) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

17.4 **Recordkeeping**.

a. The Permittee shall comply with the following for each turbine for which a demonstration under condition 17.3c does not show compliance with the limit of condition 16 at maximum load.

(i) The Permittee shall keep records of

1. load; or
2. as approved by the Department, surrogate measurements for load and the method for calculating load from those measurements.

(ii) Records in condition 17.4a shall be hourly or otherwise as approved by the Department.

(iii) Within one month after submitting a demonstration under condition 17.3c(i)2 that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a Department finding under condition 17.3c(iii), whichever is earlier, the Permittee shall propose to the Department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The Permittee shall comply with any subsequent Department direction on the load monitoring methods, equipment, or schedule.

b. For any turbine subject to condition 16, that will operate less than 400 hours in any 12 consecutive months, keep monthly records of the hours of operation. If a turbine that normally operates less than 400 hours exceeds that total during any 12 month period,

(i) test according to condition 17.1; or

(ii) if it is no longer possible to meet that schedule, test within one year of exceeding 400 hours in 12 consecutive months.

17.5 **Reporting**.

a. In each operating report under condition 52 the Permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the Permittee must limit load under condition 17.3c

(i) the load limit;

(ii) the turbine identification; and

(iii) the highest load recorded under condition 17.4a during the period covered by the operating report.

b. In each operating report under condition 52 for each turbine for which the testing described in condition 17.1 was not required because the turbine normally operates less than 400 hours in any 12 months, the Permittee shall identify

(i) the turbine;

(ii) the highest number of operating hours for any 12 months ending during the period covered by the report; and

(iii) any turbine that operated for 400 or more hours.

c. The Permittee shall report under condition 50 if

(i) a test result exceeds the emission standard;

(ii) Method 20 testing is required under condition 17.1 or 17.4b but not performed, or

(iii) the turbine was operated at a load exceeding that allowed by conditions 17.3c(ii) and 17.3c(iii); exceeding a load limit is deemed a single violation rather than a multiple violation of both the load limit and the underlying emission limit.

[18 AAC 50.50.220(a) - (c), 1/18/97, 50.040(a)(1), 7/2/00 & 18 AAC 50.350(g) - (i), 5/3/02,]
[40 CFR 60.8(b), 7/01/01]

18. NSPS Subpart GG Sulfur Standard. The fuel used in Source ID(s) 12 and 13 shall have a sulfur content not exceeding 0.8 percent by weight.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 CFR 60.333(b), Subpart GG, 7/01/01]

18.1 Fuel gas sulfur monitoring shall be performed semi-annually for fuel gas with a hydrogen sulfide concentration less than 2,000 ppmw and daily for fuel gas with a hydrogen sulfide concentration greater than 2,000 ppmw. The hydrogen sulfide concentration used to determine the frequency shall be the most recent sample of the gas burned. Sampling results shall be reported annually to EPA Region 10 (Air Enforcement and Program Support Unit).

18.2 If the quality of fuel changes such that sulfur content increase substantially or the source of the fuel changes, Unocal shall sample for sulfur within two weeks of the change and shall notify EPA within 30 days.

[40 CFR 60.334(b), Subpart GG; 7/01/01]
[EPA Custom Fuel Monitoring Schedule for Unocal Cook Inlet Facilities, 10/17/02]

18.3 Monitor sulfur content of the fuel gas using the length of stain tube test described in ASTM Method D 4810-88 and D 4913-89, or Gas Producer's Association Method 2377-86, or another method approved by the EPA Administrator or his/her designee.

[EPA Custom Fuel Monitoring Schedule for Unocal Cook Inlet Facilities, 10/17/02]
[40 CFR 60.334(b)(2), Subpart GG, 7/01/01]

18.4 The fuel sulfur analysis required under condition 18.1 may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

[40 C.F.R. 60.335(e), 7/01/01]

18.5 The requirements of this condition are superceded in the event that the EPA issues a revised alternative fuel monitoring schedule for the Dolly Varden Platform turbines.

[18 AAC 50.350(g) - (i), 5/3/02]

18.6 Recordkeeping – Keep records as required by condition 18.1.

18.7 Reporting – Submit a summary report of the results from condition 18.1 with the operating report required by condition 52.

[18 AAC 50.350(g) - (i), 5/3/02]

18.8 Report per condition 50 when the emission limit in condition 18 is exceeded.

[18 AAC 50.350(i), 7/2/00]
[18 AAC 50.040(a)(2)(V), 7/2/00]
[Federal Citation: 40 C.F.R. 60.333(a) & (b), 7/1/01]
[18 AAC 50.350(i), 1/18/97]

Section 6. Insignificant Sources

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, recordkeeping, and reporting for insignificant sources that the Department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.170 does not apply to insignificant sources.

19. For sources at the facility that are insignificant as defined in 18 AAC 50.335(q)-(v) that are not listed in this permit, the following apply:

19.1 the Permittee shall submit the compliance certifications of condition 53 based on reasonable inquiry;

19.2 the Permittee shall comply with the requirements of condition 33;

19.3 no other monitoring, recordkeeping, or reporting is required.

[18 AAC 50.346(b)(1), 5/3/02]

20. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from insignificant sources to reduce visibility through the exhaust effluent by any of the following:

20.1 greater than 20 percent for a total of more than three minutes in any one hour[2], or

[18 AAC 50.050(a)(2) & 18 AAC 50.055(a)(1), 1/18/97 & 40 CFR 52.70, 11/18/98]

20.2 more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1), 5/3/02]

21. The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

22. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from an industrial process or fuel-burning equipment, to exceed 500 ppmv averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

[2] See footnote 1

Section 7. Owner Requested Limits to Avoid Classification as a PSD Major Modification

PSD Avoidance Limits for Nitrogen Oxides and Carbon Monoxide

23. NO_X Emissions Limit for Source ID(s) 13, 14, and 15. The Permittee shall limit the combined total NO_X emissions from Source ID(s) 13, 14 and 15 to no greater than 455.3 tons per 12-month rolling period expressed as NO_2**.**

23.1 Monitor, record and report NO_X emissions as required by condition 24.

[Construction Permit No. 060CP01, Rev. 2 ,9/21/004]
[18 AAC 50.350(g)-(i), 5/3/02]

23.2 The Permittee shall set the timing retard for Emission Unit ID 15 between 3.0 to 3.6 degrees before top dead center.

[Construction Permit No. 060CP01, Rev. 2 ,9/21/004]
[18 AAC 50.350(g)-(i), 5/3/02]

23.3 The timing retard setting for Emission Unit ID 15 shall be checked at least once per twelve month rolling period in which the unit is operated and adjusted if necessary.

[Construction Permit No. 060CP01, Rev. 2 ,9/21/004]
[18 AAC 50.350(g)-(i), 5/3/02]

23.4 If the timing for Emission Unit ID15 is not set between 3.0 and 3.6 degrees before top dead center, report this deviation per condition 50.

[Construction Permit No. 060CP01, Rev. 2 ,9/21/004]
[18 AAC 50.350(g)-(i), 5/3/02]

24. NO_X Monitoring, Record Keeping & Reporting. The Permittee shall ensure compliance with condition 23 as follows:

24.1 Use the most recent NO_X source test data on Source ID(s) 13, 14, and 15 to derive source-specific NO_X emission factors for each source. Update the emission factors with any new source test data as required. Calculate aggregate monthly and rolling twelve-month NO_X tonnage from Source ID(s) 13, 14, and 15 using those factors and either hours of operation or fuel consumption from each of the three sources.

24.2 Record and report any deviation from the owner requested limit in condition 23 in accordance with condition 50.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03]
[18 AAC 50.350(g)-(i), 5/3/02]

25. CO Emissions Limit for Sources ID(s) 13, 14, and 15. The Permittee shall limit the combined total CO emissions from Source ID(s) 13, 14 and 15 to no greater than 458.9 tons per 12-month rolling period.

25.1 Monitor, record and report CO emissions as required by condition 26.

[Construction Permit No. 060CP01, Rev. *2* ,9/21/004]
[18 AAC 50.350(g)-(i), 5/3/02]

26. CO Monitoring, Record Keeping & Reporting. The Permittee shall ensure compliance with condition 25 as follows:

26.1 Use the most recent CO source test data on Source ID(s) 13, 14, and 15 to derive source-specific CO emission factors for each source. Update the emission factors with any new source test data as required. Calculate aggregate monthly and rolling twelve-month CO tonnage from Source ID(s) 13, 14, and 15 using those factors and either hours of operation or fuel consumption from each of the three sources.

26.2 Record and report any deviation from the owner requested limits in condition 25 in accordance with condition 50.

[Construction Permit No. 060CP01, Rev. 1, 5/12/03]
[18 AAC 50.350(g)-(i), 5/3/02]

Section 8. Generally Applicable Requirements

27. Asbestos NESHAP. The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152 of Subpart M and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3), 8/15/02 & 50.350(d)(1), 1/18/97]
[40 C.F.R. 61, Subparts A & M and Appendix A, 7/1/99]

28. Halon Recycling and Disposal. The Permittee shall comply with the applicable standards for recycling and emission reduction of ozone depleting substances set forth in 40 C.F.R Part 82, Subparts F, G, and H.

[18 AAC 50.040(d) & 50.350(d)(1), 1/18/97]
[40 C.F.R. Part 82, Subparts F, G & H, 7/1/01]

29. Good Air Pollution Control Practice[3]. The Permittee shall do the following for Source ID(s) 1 through 11 and 14 through 25:

29.1 perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

29.2 keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;

29.3 keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.346(b)(2), 5/3/02]

30. Dilution. The Permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

31. Stack Injection. The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the Department.

[18 AAC 50.055(g), 1/18/97]

32. Open Burning. The Permittee shall not conduct open burning at the facility.

[18 AAC 335(g), 1/18/97]

33. Air Pollution Prohibited. The Permittee shall not cause any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72]

33.1 If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to condition 50.

[3] Condition 29 is enforceable only by the State until the new regulations, dated May 3, 2002, are approved by EPA into the SIP at which time this standard becomes federally enforceable.

33.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 33.

33.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the facility have caused or are causing a violation of condition 33; or

b. the department notifies the Permittee that it has found a violation of condition 33.

33.4 The Permittee shall keep records of

a. the date, time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of condition 33; and

d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

33.5 With each operating report under condition 52, the Permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the Permittee or the department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or department found necessary that were not taken within 24 hours.

33.6 The Permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2) & 18 AAC 50.350(h) – (i), 5/3/02]

34. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard[4], the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under condition 50 requires information on the steps taken to minimize emissions. The report required under condition 50 is adequate monitoring for compliance under this condition.

[18 AAC 50.235(a) & 50.350(f)(3), 1/18/97]

35. Permit Renewal. To renew this permit, the Permittee shall submit a complete application under 18 AAC 50.335 no sooner than **May 30, 2007** and no later than **May 30, 2008.**

[18 AAC 50.335(a), 1/18/97]

[4] *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Section 9. General Source Testing and Monitoring Requirements

36. Requested Source Tests. In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a) 1/18/97 & 18 AAC 50.345(a)&(k), 5/3/02]

37. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

[18 AAC 50.220(b) & 50.350(g), 1/18/97]

37.1 at a point or points that characterize the actual discharge into the ambient air; and

37.2 at the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air. This requirement does not apply to visible emissions tests conducted pursuant to Section 13.

38. Reference Test Methods. Except as approved by the Department, the Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

38.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 8/15/02]
[18 AAC 50.220(c)(1)(A) & 50.350(g), 1/18/97]
[40 C.F.R. 60, 7/1/01]

38.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 8/15/02; 50.220(c)(1)(B) & 50.350(g), 1/18/97]
[40 C.F.R. 61, 12/19/96]

38.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 6/1/02]
[18 AAC 50.220(c)(1)(C) & 50.350(g), 1/18/97]
[40 C.F.R. 63, 7/1/01]

38.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method-9 and may use the form in Section 14 to record data.

[18 AAC 50.030, 5/3/02]
[18 AAC 50.220(c)(1)(D) & 50.350(g), 1/18/97]

38.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 8/15/02]
[18 AAC 50.220(c)(1)(E) & 50.350(g), 1/18/97]
[40 C.F.R. 60, Appendix A, 7/1/01]

38.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201a and 202.

[18 AAC 50.220(c)(1)(F) & 18 AAC 50.350(g), 1/18/97 & 18 AAC 50.035(b)(2), 7/2/00]
[40 C.F.R. 51, Appendix M, 7/1/01]

38.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

[18 AAC 50.220(c)(2) & 50.350(g), 1/18/97 & 18 AAC 50.040(c)(19), 7/2/00]
[40 C.F.R. 63, Appendix A, Method 301, 4/5/02]

39. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3) & 18 AAC 50.350(g); 1/18/97; & 18 AAC 50.990(88), 5/3/02]

40. Test Exemption. The Permittee is not required to comply with conditions 37.2, 42, 43, and 44 (Operating Conditions, Test Plans, Test Notifications and Test Reports) when the exhaust is observed for visible emissions under condition 64 or condition 65.

[18 AAC 50.345(a), 5/3/02]

41. Test Deadline Extension. The Permittee may request an extension to a source test deadline established by the department. The Permittee may delay a source test beyond the original deadline only if the department's appropriate division director or designee approves the extension in writing. This is a state-only condition.

[18 AAC 50.345(a)&(l), 5/3/02]

42. Test Plans. Before conducting any source tests, the Permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the Permittee will document this operation. The Permittee shall submit a complete plan within 60 days of receiving a request under condition 37 and at least 30 days before the scheduled date of any test unless the department agrees in writing to some other time period. Retesting may be done without resubmitting the plan. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions.

[18 AAC 50.350(b)(3) & 18 AAC 50.350(g), 1/18/97; & 18 AAC 50.345(a)&(m), 5/3/02]

43. Test Notification. At least 10 days before conducting a source test, the Permittee shall give the department written notice of the date and the time the source test will begin. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a)&(n), 5/3/02]

44. Test Reports. Within 60 days after completing a source test, the Permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3 of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results as set out in 18 AAC 50.345(j). If requested in writing by the department, the Permittee must provide preliminary results in a shorter period of time specified by the department. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions.

[18 AAC 50.350(b)(3), 1/18/97; 18 AAC 50.350(h) – (i) & 18 AAC 50.345(a)&(o), 5/3/02]

45. Particulate Matter Calculations. In source testing for compliance with the particulate matter standards in conditions 4 and 21, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f) & 50.350(g), 1/18/97]

Section 10. General Recordkeeping, Reporting, and Compliance Certification Requirements

46. Certification. The Permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

[18 AAC 50.205, 18 AAC 50.350(b)(3) & 18 AAC 50.350(i) 1/18/97 & 18 AAC 50.345(a)&(j), 10/01/04]

47. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with condition.

[18 AAC 50.350(i), 1/18/97]

48. Information Requests. The Permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the department copies of records required to be kept by this permit. The department may require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200 & 18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.350(g) – (i) & 18 AAC 50.345(a)&(i), 5/3/02]

49. Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

49.1 copies of all reports and certifications submitted pursuant to this section of the permit; and

49.2 records of all monitoring required by this permit, and information about the monitoring including:

a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling or measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

[18 AAC 50.350(h), 5/3/02]
[40 CFR 60.7(f), Subpart A, 7/1/01]

50. Excess Emissions and Permit Deviation Reports.

[18 AAC 50.235(a)(2), 50.240(c), 50.326(j)(3), and 50.346(b)(2) & (3), 10/01/04]

50.1 Except as provided in condition 33, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in conditions 50.1c(ii) and 50.1c(iii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under condition 50.1c(i); and

(iii) for failure to monitor, as required in other applicable conditions of this permit.

50.2 The Permittee must report using either the department's on-line form, which can be found at http://www.state.ak.us/dec/air/ap/docs/adby/4notform.pdf or if the Permittee prefers, the form contained in Section 16 of this permit. The Permittee must provide all information called for by the form that is used.

50.3 If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

51. NSPS and NESHAP Reports. The Permittee shall submit to the department copies of reports required by conditions 18 and 27 as they apply to the facility as follows:

51.1 Attach a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 unless previously submitted to the Department; and

51.2 upon request by the Department, notify and provide a written copy of any EPA granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules.

[18 AAC 350(i)(2), 1/18/97 & 18 AAC 50.040, 7/2/00]
[Federal Citation 40 C.F.R. 60 & 40 C.F.R. 61, 7/1/01]

52. Operating Reports. During the life of this permit, the Permittee shall submit to the Department an original and two copies of an operating report by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.

52.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

52.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 52.1, either

a. The Permittee shall identify

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date of such actions; or

b. when excess emissions or permit deviations have already been reported under condition 50 the Permittee may cite the date or dates of those reports.

[18 AAC 50.350(d)(4), 18 AAC 50.350(f)(3) & 18 AAC 50.350(i), 1/18/97 & 18 AAC 50.345(a)&(j), 5/3/02]

52.3 The operating report must include a listing of emissions monitored under conditions 16, 18, and 64 which trigger additional testing or monitoring, whether or not the emissions monitored, exceed an emission standard. The Permittee shall include in the report

a. the date of the emissions;

b. the equipment involved;

c. the permit condition affected; and

d. the monitoring result which triggered the additional monitoring.

[18 AAC 50.350(d)(4), (f)(3) & (i); 1/18/97 & 18 AAC 50.346(b)(3), 5/3/02]

53. Annual Compliance Certification. Each year by March 31st, the Permittee shall compile and submit to the Department an original and two copies of an annual compliance certification report as follows:

[18 AAC 50.350(j), 1/18/97]

53.1 For each permit term and condition set forth in Section 4 through Section 10 including terms and conditions for monitoring, reporting, and recordkeeping:

a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;

b. state whether compliance is intermittent or continuous; and

c. briefly describe each method used to determine the compliance status.

53.2 Submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(d)(4), (f)(3) & (i), 1/18/97 & 18 AAC 50.346(b)(3), 10/01/04]

Section 11. Standard Conditions Not Otherwise Included in the Permit

54. The Permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated as not federally-enforceable, the Clean Air Act, and is grounds for:

54.1 an enforcement action,

54.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

54.3 denial of an operating-permit renewal application.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(c), 5/3/02]

55. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(d), 5/3/02]

56. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(e), 5/3/02]

57. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

57.1 included and specifically identified in the permit, or

57.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(b), 5/3/02]

58. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(f), 5/3/02]

59. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(g), 5/3/02]

60. The Permittee shall allow an officer or employee of the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

60.1 enter upon the premises where a source subject to the operating permit is located or where records required by the permit are kept,

60.2 have access to and copy any records required by the permit,

60.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and

60.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(h), 5/3/02]

Section 12. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.170, and based on information supplied in the facility application, this section of the permit contains the requirements determined by the Department not to be applicable to the Dolly Varden Platform.

61. Table 2 identifies the sources and facility classifications that are not subject to the specified requirements at the time of permit issuance. If any of the requirements in Table 2 become applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction, and/or an operating permit revision.

[18 AAC 50.350(l), 1/18/97]

Table 2 - Permit Shields Granted.

Source ID	Non Applicable Requirements	Reason for non-Applicability
Source ID(s) 1 through 11	40 CFR 60, Subpart GG	Permittee did not commence construction, modification or reconstruction of these sources after October 3, 1977.
Source ID 13	Const. Permit 060CP01, Rev. 1, Condition 24.3	The Permittee satisfied the source test requirement and NO_x emissions limit for this source.
Source ID 13	Condition 3 of AQC Permit 9423-AA012, amendment#1	This condition in AQC Permit 9423-AA012, amendment#1 was rescinded in Const. Permit 060CP01.
Source IDs 13, 14, and 15	Condition 13 of Const. Permit 060CP01.	The individual NOx limits were combined in condition 15 of Const. Permit 060CP01, Rev.1.
Source IDs 16 & 17	40 CFR 60, Subpart Dc	The heat input capacity, with the existing burner configuration, is less than 10 MMBtu/hr.
Facility	40 CFR 60, Subparts K, Ka, Kb	Permittee did not commence construction, modification or reconstruction of any tanks in these categories after June 11, 1973
Facility	40. C. F. R. 60 Subparts B, C, Ca, Cb, Da, Db, Dc, Ea, Eb, F, G, H, I, J, K, Ka, Kb, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Y, Z,	No "affected facilities" within the permitted facility.
Facility	40. C. F. R. 60 Subparts AA, AAa, BB, CC, DD, EE, FF, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX	No "affected facilities" within the permitted facility.

Source ID	Non Applicable Requirements	Reason for non-Applicability
Facility	40 C.F.R. 60 Subparts AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, and VVV	No "affected facilities" within the permitted facility.
Facility	40 CFR Part 60, Subpart BBBB, Emission Guidelines For Small Municipal Waste Combustion Units Constructed On Or Before August 30, 1999	No affected sources within the facility.
Facility	40 CFR Part 60, Subpart CCCC, Standards of Performance For Commercial and Industrial Solid Waste Incineration Units For Which Construction Is Commenced After November 30, 1999 Or Reconstruction Is Commenced On Or After June 1, 2001	No affected sources within the facility.
Facility	40 C.F.R. 61 Subparts B, C, D, E, F, H, I, J, K, L, N, O, P, Q, R, T, V, W, Y, BB and FF.	No "affected facilities" within the permitted facility.
Facility	40 CFR Part 62, Subpart III, Federal Plan Requirements for Commercial and Industrial Solid Waste Incinerators Constructed On Or Before November 30, 1999, all provisions except § 60.14525(c)(2)	No affected sources within the facility
Facility	40 CFR Part 62, Subpart JJJ, Federal Plan Requirements For Small Municipal Waste Combustion Units Constructed On Or Before August 30, 1999	No affected sources within the facility
Facility	40 C.F.R. 63 Subparts A, B, F, G H, L, M, N, O, Q, R, T, W, X, and EE	No "affected facilities" within the permitted facility.
Facility	40 C.F.R. 63 Subparts HH & HHH	Facility is not a "major source" of HAPs as defined in 40 CFR 63.760(a). and 63.1271. In addition, permitted facility contains no "affected source" as defined in 40 CFR 63.760(b).
Facility	18 AAC 50.055(d) and (e), Fuel	No affected sources within the

Source ID	Non Applicable Requirements	Reason for non-Applicability
	burning equipment standards	permitted facility.
AQCP 9423-AA012	Permit Continuity- 18 AAC 50.340(i)(1)	18 AAC 50.340(i)(2). The Title V air permit supercedes previously issued operating and construction permits.

Section 13. Visible Emissions and PM Monitoring, Recordkeeping and Reporting

For Gas-fired Equipment -Source ID(s) 1 through 9, 10 when firing on fuel gas, and 11 through 17

62. Visible Emissions: Monitoring, Record Keeping, and Reporting.

62.1 The Permittee shall use only gas as fuel in Source ID(s) 1 - 9 and 11 - 17. The Permittee shall certify in each operating report required under condition 52 that the source burned only gas.

62.2 The Permittee shall report under condition 50 if any fuel is burned other than gas in Source ID(s) 1 - 9 and 11 - 17.

[18 AAC 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

63. Particulate Matter Emissions: Monitoring, Record Keeping, and Reporting. The Permittee shall comply with condition 62.

[18 AAC 50.350(g) – (i) & 50.346(c), 5/3/02]

Dual Fuel-Fired Equipment- Source ID(s) 10 while firing liquid fuel and Diesel Fired Engines, Source ID(s) 18 through 24

64. Visible Emissions Monitoring and Reporting. The Permittee shall perform the following visible emission monitoring and reporting for Source ID(s) 10 and 18 - 24 as follows:

[18 AAC 50.350(g) - (i), 5/3/02]

64.1 Visible Emissions Monitoring – The Permittee shall perform an annual Method 9 visible emissions observation on Source ID(s) 18 through 24 if the operating hours on liquid fuel exceed the threshold values in Table 3. Perform the observations, if required, between 10 and 14 months after the preceding observation on that source. The observation shall be conducted for 18 minutes to obtain 72 individual readings at 15-second intervals. If 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent, the Permittee shall perform corrective action under condition 65.

[18 AAC 50.350(f)(4), 1/18/97]

64.2 Visible Emissions Reporting – the Permittee shall include in the facility operating report required under condition 52 a summary of the results of all Method 9 readings performed during the reporting period under condition 64.1.

64.3 For Source ID 10, if the operating hours on liquid fuel exceed 400 hours during any calendar year the Permittee shall:

a. Notify the Department and begin monitoring the affected source according to conditions 64.1 and 64.2 no later than 15 days after the end of a calendar month in which the cumulative hours of operation for the calendar year exceed 400 hours on back-up liquid fuel.

b. Report under condition 50 if the Permittee fails to comply with conditions 64.1 or 64.3.

[18 AAC 50. 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

65. Corrective Actions Based on Visible Emissions Observations. If required under condition 64.1, perform corrective action within 14 days and conduct a follow-up Method 9 observation under condition 64.1 within 30 days of completing the corrective action.

65.1 Record keeping – if applicable, keep a written record of the starting date, the completion date, and a description of any actions taken under condition 65 to reduce visible emissions.

65.2 Reporting – submit with the facility operating report required under condition 52 copies of any records required under condition 65.1.

[18 AAC 50. 350(f)(4), 1/18/97 & 50.350(g) – (i), 5/3/02]

66. Particulate Matter Monitoring for Liquid-Fired Turbines and Engines. The Permittee shall conduct source tests on Source ID(s) 10 and 18 - 24 to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this condition 66:

66.1 Within six months of exceeding the criteria of condition 66.2a or 66.2b, either

a. conduct a PM source test according to the requirements set out in Section 9; or

b. make repairs so that emissions no longer exceed the criteria of condition 66.2 to show that emissions are below those criteria and observe emissions as described in 64 under load conditions comparable to when the exceedance was documented.

66.2 Conduct the test according to condition 66.1 if

a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent, or

b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

66.3 During each one-hour PM source test run, observe the exhaust for 18 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

66.4 The automatic PM source test requirement in conditions 66.1 and 66.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

66.5 Monitor, record and report operating hours for Source ID(s) 10 and 18 through 24 as provided in condition 11. If the operating hours during any consecutive twelve-month period exceed the operating hours threshold in Table 3, monitor and report for visible emissions and particulate matter emissions (if required) for that source as provided in condition 66.

Table 3 - IEU Hours Threshold.

Source ID	Operating Hours Threshold
18	156
19	156
20	370
21	370
22	240
23	240
24	488

[18 AAC 50.350(f)(4), 1/18/97 & 18 AAC 50.346(c), 50.350(g)-(i), 5/3/02]

67. Particulate Matter Reporting. The Permittee shall report as excess emissions under condition 50 any time the results of a source test for particulate matter (PM) exceeds the PM emission limit stated in condition 4.

[18 AAC 50.350(g) – (i), 5/3/02]

Visible Emission Observations for Flares-Source ID(s) 25

68. Visible Emissions Monitoring, Recordkeeping, and Reporting for Flares. The Permittee shall observe the first six daylight flare events[5] occurring at Source ID(s) 25 during the life of this permit[6].

[18 AAC 50.350(g)-(i), 5/3/02]

[5] For purposes of this permit, a "flare event" is flaring of gas for greater than one hour as a result of scheduled lease operations, i.e. maintenance or well testing activities. It does not include non-scheduled lease operations, i.e. process upsets, emergency flaring, or de minims venting of gas incidental to normal operations.
[6] Flare events monitored within 12-months prior to permit effective date may count towards the six-event total.

68.1 Monitor flare events using Method-9.

68.2 Record the following information for the observed event:

a. the flare(s) Source ID number;

b. results of the Method-9 observations;

c. reason(s) for flaring;

d. date, beginning and ending time of event; and

e. cumulative volume of gas flared from Source ID(s) 25.

68.3 Until monitoring has been completed on the six flare events described in this condition, the Permittee shall either monitor each qualifying flare event or include in the next report required by condition 52 an explanation of the reason the event was not monitored. Monitoring of a flare event may be postponed for safety or weather reasons, or because a qualified observer is not available.

68.4 Attach copies of the records required by condition 68.2 with the operating report required by condition 52.

68.5 Report under condition 50 whenever the opacity standard in condition 3 is exceeded.

[18 AAC 50.350(f)(4), 1/18/97 & 18 AAC 50.350(g)-(i), 5/3/02]

Section 14. Visible Emissions Field Data Sheet

Certified Observer: _____

Company: _____

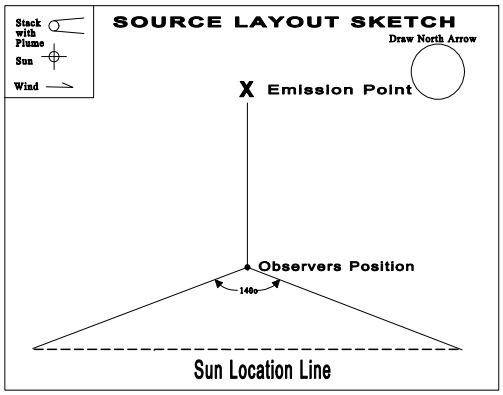
Location: _____

Test No.: _____ Date: _____

Source: _____

_____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ___ of ___

Company & Facility _____
Certified Observer_____
Test Number _____
Clock Time & Date _____

Date:		Visibility Reduction Every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional Information:

_____ _____
Observer Signature/Date Certified By/Date

Data Reduction:
Duration of Observation Period (minutes) _____
Duration Required by Permit (minutes) _____
Number of Observations _____
Number of Observations exceeding 20% _____
In Compliance with Three Minute Aggregate Opacity Limit? (yes or no) _____
Highest Six Minute Average Opacity (%)_____
In Compliance with Six Minute Opacity Limit? (yes or no) _____

Average Opacity Summary:

Test Number	Time Start—End	Opacity	
		Sum	Average

Section 15. SO_2 Material Balance Calculation

If the sulfur content of any fuel combusted is greater than 0.75% by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A = 31,200 X [**wt%S_{fuel}**] = 31,200 X _____ = _____

B = 0.148 X [**wt%S_{fuel}**] = 0.148 X _____ = _____

C = 0.396 X [**wt%C_{fuel}**] = 0.396 X _____ = _____

D = 0.933 X [**wt%H_{fuel}**] = 0.933 X _____ = _____

E = B + C + D = _____ + _____ + _____ = _____

F = 21 – [**vol%$_{dry}O_{2,\ exhaust}$**] = 21 - _____ = _____

G = [**vol%$_{dry}O_{2,\ exhaust}$**] ÷ F = _____ ÷ _____ = _____

H = 1 + G = 1 + _____ = _____

I = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ PPMV

The **wt%S_{fuel}**, **wt%C_{fuel}**, and **wt%H_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 5.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%$_{dry}O_{2,\ exhaust}$**) is obtained from oxygen meters, manufacturer's data, or from the most recent Orsat analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%$_{dry}O_{2,\ exhaust}$** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.350(g), 1/18/97]

Section 16. ADEC Notification Form[7]

Excess Emissions and Permit Deviation Reporting

State of Alaska Department of Environmental Conservation
Division of Air Quality

_____ _____
Stationary Source (Facility) Name **Air Quality Permit Number**

_____
Company Name

When did you discover the Excess Emissions/Permit Deviation?

Date: / / Time: :

When did the event/deviation?

Begin: Date: / / Time: : (please use 24hr clock)
End: Date: / / Time: : (please use 24hr clock)

What was the duration of the event/deviation: : (hrs:min) or days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for notification: (please check only 1 box and go to the corresponding section)

☐ Excess Emissions Complete Section 1 and Certify
☐ Deviation from Permit Conditions Complete Section 2 and Certify
☐ Deviation from COBC, CO, or Settlement Agreement Complete Section 2 and Certify

Section 1. Excess Emissions

(a) Was the exceedance ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies)**:**

☐ Start Up/Shut Down ☐ Natural Cause (weather/earthquake/flood)
☐ Control Equipment Failure ☐ Scheduled Maintenance/Equipment Adjustments
☐ Bad fuel/coal/gas ☐ Upset Condition ☐ Other

(c) Description

Describe briefly what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emission Units Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

[7] Revised as of December 6, 2004

EU ID	Emission Unit Name	Permit Condition Exceeded/Limit/Potential Exceedance

(e) Type of Incident (please check only one):

☐ Opacity % ☐ Venting (gas/scf) ☐ Control Equipment Down
☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Record Keeping Failure
☐ Marine Vessel Opacity ☐ Failure to monitor/report ☐ Flaring
☐ Other:

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable? ☐ YES ☐ NO
Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ YES ☐ NO

Certify Report (go to end of form)

Section 2. Permit Deviations

(a) Permit Deviation Type (check one only) (check boxes correspond with sections in permit)

☐ Emission Unit Specific
☐ General Source Test/Monitoring Requirements
☐ Recordkeeping/Reporting/Compliance Certification
☐ Standard Conditions Not Included in Permit
☐ Generally Applicable Requirements
☐ Reporting/Monitoring for Diesel Engines
☐ Insignificant Emission Unit
☐ Stationary Source- Wide
☐ Other Section: (title of section and section # of your permit)

(b) Emission Units Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding Permit condition and the deviation.

EU ID	Emission Unit Name	Permit Condition /Potential Deviation

(c) Description of Potential Deviation:

Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:_____Title_____Date _____

Signature:_____ Phone number_____

To Submit this report:

Fax this form to: 907-451-2187
Or
Email to: airreports@dec.state.ak.us
if emailed, the report must be certified within the Operating Report required for the same reporting period per condition 52.
Or
Mail to: ADEC
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643
Or
Phone notifications: 907-451-5173.
Phone notifications require written follow up report within the deadline listed in condition 50.
Or
Online submission of this report can be made at the following website *(Website is not yet available). If submitted online, the report must be certified within the Operating Report required for the same reporting period per condition 52.*

Alaska Department of Environmental Conservation

Air Permits Program

October 13, 2003

Union Oil Company of California

Dolly Varden Platform

Statement of Basis of the terms and conditions for

Permit No. AQ0060TVP01

Prepared by Scott Bailey

Revision 1: November 5, 2003

Revised by Scott Bailey

Revision 2: August 3, 2005

Revised by Scott Bailey

INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. AQ0060TVP01.

FACILITY IDENTIFICATION

Section 1 contains information on the Dolly Varden Platform provided in the Title V permit applications. Dolly Varden Platform is an off shore oil drilling facility, SIC code 1311, producing natural gas and oil with some residual water in the oil. Gas-fired equipment includes turbines, a flare and engines used in the oil production process. One turbine is dual fueled. Oil and natural gas are processed through oil/gas separators on the platform. Product oil/natural gas is pumped through underwater pipelines to the Granite Point Tank Farm (GPTF) for sale. The natural gas is also used for fuel on Dolly Varden Platform or flared.

The equipment at Dolly Varden consists of: ten Solar Saturn T-1300 gas-fired turbines, one Solar Saturn T-1300 dual fuel-fired turbine, one Solar Centaur T-4500 gas fired turbine, two 3000 hp gas-fired IC engines, four diesel electric generator sets, four diesel-fired engines, five boilers, and a flaring system. Federal Prevention of Significant Deterioration (PSD) and Alaska Air Quality Regulations designate the area adjacent to Dolly Varden Platform as Class II.

The facility is owned and operated by Union Oil Company of California (Unocal), and Union Oil Company of California is the Permittee for the facility's operating permit.

Revision # 2

- The PTE of the regulated air contaminants in Table A includes the following increases permitted in construction permit 060CP01, Revision 2: NO_x 15 tpy, CO 18.9 tpy, VOC 9.8 tpy, PM-10 1.8 tpy and SO_2 19.0 tpy.

- The word "daylight" was added in front of "flare events" in Condition 68.

- Permit shield provisions were added for the facility which affect incinerators. There are no affected sources at this facility under 40 CFR 60 Subparts BBBB and CCCC and 40 CFR 62 Subparts III and JJJ.

- The department updated and revised Excess Emissions/Deviation reporting required under Condition 50 and the DEC excess emission notification form in Section 16.

SOURCE INVENTORY AND DESCRIPTION

Table 1 contains information on the sources at the facility as provided in the application, in Operating Permit 9423-AA012, amendment #1. Table 1 describes the sources regulated by the

permit. Source ID(s) 13 and 26 were added to Dolly Varden through Construction Permits 060CP01 dated March 19, 2002 and 060CP01 Rev. 1 dated March 27, 2003. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in the table is not intended to create an enforceable limit. The Burnham Boilers, V-B-0004 and V-B-0005 are not included in Table 1 because Unocal has demonstrated that these sources are insignificant emission units even if run 8,760 hr/yr on diesel fuel.

Source ID(s) 16 and 17 listed in the Title V application as International Boilers with a heat rating of 7.5 MMBtu/hr were upgraded in 1996 to Ajax Boilers with a heat rating of 8.0 MMBtu/hr.

The Unocal facility is an existing oil and gas production plant constructed by Marathon Oil in 1967. The original air quality operating permit AQC-20 was issued to Marathon Oil on June 30, 1972, renewed by the Department on: November 6, 1974 as AQC 120; October 14, 1975 as 120A, and on October 30, 1978 as 120B. Air Permit 120B was cancelled by the Department in April 1980. Unocal received Operating Permit 9423-AA012 on March 29, 1995. Construction permits 060CP01 and 060CP01, Rev. 1 were issued in 2002 and 2003 as noted above.

EMISSIONS

Table A contains emission information as provided in the application and a Department review of emission increases approved since the issue of a PSD permit in October 1994. A summary of the potential to emit (PTE)[8] from the Dolly Varden Platform based on the original Title V application and amendments received in August and October 2002 and as a result Construction Permits 060CP01, Revision 1 (5/12/03) and Revision 2 (9/21/04) is shown in Table A.

Table A - Potential Emissions Summary, in Tons Per Year (tpy)

Pollutant	NO_x	CO	PM-10	SO_2	VOC	Total
PTE	1,300.6	836.6	28.2	369	51.9	2,586.3
Assessable PTE	1,300.6	836.6	28.2	369	51.9	2,586.3

The assessable PTE listed under condition 1.2 is the sum of the emissions of each individual regulated air contaminant for which the facility has the potential to emit quantities greater than 10 tpy. The potential regulated emissions for fuel burning equipment are based on AP-42 factors, source tests and vendor data.

[8] *Potential to Emit* or *PTE* means the maximim quantity of a release of an air contaminant, considering a facility's physical or operational design, based on continual operation of all sources with the facility for 24 hours a day, 365 days a year, reduced by the effect of pollution control equipment and approved state or federal limitations on the capacity of the facility's sources or the facility to emit an air contaminant, including the limitations such a restrictions on hours of rate of operation and type or amount of material combusted, stored, or processed as defined in AS 46.14.990(21), effective 1/18/97.

BASIS FOR REQUIRING AN OPERATING PERMIT

Section 2 includes a description of the regulatory classifications of the Dolly Varden Platform. This facility is classified in 18 AAC 50.325 (b)(1), (b)(3) and (c) because it has a PTE of more than 100 tpy of a regulated air contaminant, contains fuel-burning equipment with a rated capacity of 100 million Btu per hour or more and is a PSD size facility with sources subject to Federal New Source Performance Standards (NSPS).

Alaska regulations require operating permit applications to include identification of "regulated sources." As applied to Dolly Varden Platform, the state regulations require a description of:

⇒ Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment, under18 AAC 50.335(e)(4)(C);

⇒ Each source subject to a standard adopted by reference in 18 AAC 50.040 under 18 AAC 50.335(e)(2); and

⇒ Sources subject to requirements in an existing Department permit 18 AAC 50.335(e)(5).

The emission sources at Dolly Varden Platform classified as "regulated sources" according to the above Department regulations are listed in Table 1 of Operating Permit No. AQ0060TVP01.

CURRENT AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

The most recent permit issued for this facility is Air Quality Operating Permit 9423-AA012 and was issued before January 18, 1997. All facility-specific applicable requirements established in this previous permit, except those are included in the new operating permit as described below.

Construction Permits

Construction Permits 060CP01 dated March 19, 2002, 060CP01 Rev. 1 dated May 12, 2003 and 060CP01 Rev 2 have been issued for Dolly Varden.

Title-V Operating Permit Application History

The owner or operator submitted an application on October 6, 1997.

The owner or operator amended this application in 2002 and 2003.

COMPLIANCE HISTORY

The facility has operated at its current location since 1967. Review of the current permit files for this facility, which includes the past two years inspection reports indicate a facility generally operating in compliance with its operating permit.

FACILITY-SPECIFIC REQUIREMENTS CARRIED FORWARD

State of Alaska regulations in 18 AAC 50.350(d)(1)(D) require that an operating permit include each facility-specific requirement established in a prior operating permit. The table below lists the permit condition that established a requirement in Operating Permit No. 9423-AA012 and the new condition in Operating Permit No. AQ0060TVP01 that carries the old requirement into the new permit.

Table B Comparison of Pre-January 18, 1997 Permit No. 9423-AA012 amendment #1, Conditions to Operating Permit No. AQ0060TVP01 Conditions[9]

Permit No. 9423-AA012 Condition	Description of Requirement	Permit No. AQ0060TVP01 Condition	How condition was revised
Introductory paragraph and Exhibits A thru E	Authority for permit and source list Record operating hours for each source monthly, report liquid fuel & fuel gas sulfur content,	Section 2, Section 3, Section 5, conditions 11, 66.5	New AQ regulations and permit format. New fuel sulfur analysis methods approved as part of 10/17/02 EPA Custom Fuel Monitoring Schedule. Operating hours modified to include owner requested IEU limits.
1	comply with state air quality standards & increments	None	Now required only for construction permits
2	comply with most stringent emission standards, limits, specifications	Section 5 & Section 12	Standards, limits, specifications are now in several conditions
3	Perform NSAAQS modeling as required	12 & 29	Rescinded in Const. Permit 060CP01.
4	Operate and maintain equipment to minimize emissions during startup and shutdown	12 & 29	Replaced by conditions 12 & 29
5	Operate Source ID(s) 22 & 23 not more than 3,000 hrs/yr each.	10.1	Same requirements for renumbered sources.
6	Operate Source ID(s) 24 & 25 not more than 120 hrs/yr each for the purpose of performing routine maintenance and to verify their operational capability	10.2	Second fire pump, Source ID 25 removed.
7	Operate Source ID(s) 25 not more than 120 hrs/yr each for the purpose of performing routine maintenance and to verify	10.2	Stand-by generator is now Source ID 23.

[9] This table does not include all standard and general conditions

Permit No. 9423-AA012 Condition	Description of Requirement	Permit No. AQ0060TVP01 Condition	How condition was revised
	their operational capability		
8	Flow control for flaring systems equal to phase separator capacity. No liquids to flare.	None	No basis for requirement in 9423 - AA012. New VE monitoring for flares in condition 68.
9	Burn only diesel fuel with sulfur 0.5% ≤ by weight.	8	Ambient standard requirement from Const. Permit 060CP01. SIP standard liquid fuel sulfur is in condition 5.1
10	Burn formation gas from Grayling Gas Sands in Source ID(s) 12, 14, & 15. A change in the gas source is considered a modification. Conduct ambient modeling if avg. monthly H_2S > 500 ppmv.	6.1, 6.2	Condition amended in Const. Permit 060CP01.
11	Burn only natural gas with an avg. H_2S ≤ 500 ppmv, in all natural gas consuming equipment except Source ID(s) 12, 14, & 15.	6.1, 6.2	Condition amended in Const. Permit 060CP01.
12	Perform source test on any source in Exhibit A if requested by the Dept.	36	Same requirement for Table 1
13	Conduct source tests at maximum equipment rating	37	Same requirement, changed wording
14	Submit source test plans within 30 & 60 day windows specified prior to testing	42	Same requirement, changed wording
15	Written notification 10 days prior to testing	43	Same requirement, changed wording
16	Collect emission parameters in Exhibit C appropriate for the source test conducted	Section 9	Same requirement, changed wording
17	Submit source test results	44	Same requirement, changed wording
18	Continuous monitoring of parameters in Exhibit D	10, 11	Power generation , scrubber pressure drop, and fuel use monitoring removed-no regulatory basis in previous permit. Hours of operation sufficient for calculating emissions. Modified requirements,

Permit No. 9423-AA012 Condition	Description of Requirement	Permit No. AQ0060TVP01 Condition	How condition was revised
			changed wording
19	Notify the Dept. by fax or phone of any excess emissions or equipment failures within 24 hrs.	33, 50.1b	Changed to include reporting within 48 hours in condition 50.1b
20	Submit written excess emissions report within 5 days	33, 50.1b	Changed to include reporting within 48 hours in condition 50.1b.
21	Access to the facility	60	Same requirement, changed wording
22	Submit 2 copies semi-annual Operating reports Jan. 30 & October 17	52	Same requirement, changed wording
23	Maintain records	49	Same requirement, changed wording
24	Notify Dept. 30 days prior to any change that would result in an increase in air emissions	None	Removed. State-only reporting for modifications required in a construction permit.
25	Display permit in control room, keep on file	None	Removed. State only display required.

Construction Permit

State of Alaska regulations in 18 AAC 50.350(d)(1)(D) require that an operating permit include each facility-specific requirement established in a prior construction permit. This permit amends certain provisions in Construction Permit 060CP01, Rev. 1 and carries other provisions into this permit. The table below lists the permit condition that established a requirement in Construction Permit No. 060CP01 Rev.1 and the new condition in Operating Permit No. AQ0060TVP01 that amends or carries the old requirement into the new permit.

Table C - Comparison of Construction Permit No. 060CP01 Rev.1 Conditions to Operating Permit No. AQ0060TVP01 Conditions[10]

Permit No. 060CP01 Rev.1 condition	Description of Requirement	Permit No. AQ0060TVP01 condition	How condition was revised
1 - 8	Permit Continuity	Table 1 & Section 5	Operating Permit 060TVP01 incorporates the facility specific requirements of Construction Permit No. 060CP01 Rev.1. Notifications req'd by condition 7 completed.
4	2000 ppm H_2S limit for Source ID 13.	6.1	Condition 6.1 reduces the H_2S limit to 1000 ppmv, and deletes the requirement for an ambient impact analysis if H_2S exceeds 1000 ppmv.
10	Notify the Dept. if installing new stationary equipment not listed in Table A of AQC Permit 9423-AA012 or making an operational or physical change that would cause an increase of a regulated air contaminant.	Deleted	Removed. Regulatory basis for the condition does not apply to operating permits.
11	Track & report the use of permanent and temporary non-road engines installed after final issue of Construction Permit having a size rating> 400 Brake Horse Power.	9	Same requirement
12	Monitoring requirements in Exhibit C, D, and E in AQC Permit 9423-AA012.	5 & 11	Construction Permit H_2S monitoring updated to be consistent with current Title V monitoring terms/conditions.
13	Operational limits for Source ID 24	7	Same requirement
14 -22	Owner requested limits for NO_x & CO to avoid PSD classification for Source ID(s) 13, 14 and 15.	23 through 26	Modified requirements for NO_x & CO monitoring due to emission levels less than 80% of the limit in initial source tests.

[10] This table does not include all standard and general conditions

Permit No. 060CP01 Rev.1 condition	Description of Requirement	Permit No. AQ0060TVP01 condition	How condition was revised
23 - 25	Federal NSPS 40 CFR 60, Subpart GG	16 through 18	Amended requirements in this permit to reflect NSPS provisions already satisfied or not relevant to Source ID 13 operation. Initial performance tests and an exemption from NO_x CEM revisions included.
26 - 28	SIP Limits	3 through 5	Construction Permit No. 060CP01 Rev.1 amended by this permit to be consistent with currently adopted Title V monitoring terms/conditions.
29 - 60	Generally Applicable Requirements	33 - 60	These conditions were amended in this permit to adopt the current Title V General Conditions.
39	Continuous Monitoring Systems	none	Any additional testing and monitoring will be based on the protocols and methodology in conditions 16 and 1 due to emission levels less than 80% of the limit in initial source tests.

LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

Applicability: The state and federal regulations for each condition are cited in Operating Permit No. **AQ0060TVP01**.

Conditions 1 - 2. Assessable Emissions and Fee Requirements

Applicability: This state regulation applies because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: These conditions require the Permittee to pay fees in accordance with 18 AAC 50.410 and the department's billing regulations in 18 AAC 50.420. The department's billing regulations set the due dates for payment of fees based on the billing date. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

The conditions also set forth how the Permittee may recompute assessable emissions. If the Permittee does not choose to annually calculate assessable emissions, emissions fees may be paid based on "potential to emit."

The PTE set forth for the Dolly Varden Platform in the condition is based on 0.5% by weight sulfur content or fuel gas with a sulfur content of 25 ppmv H_2S by volume. If the actual sulfur content of the fuel is greater than these assumptions, the assessable emissions calculations provided by the Permittee should reflect the actual sulfur content.

Revision #2

The total emissions of regulated air contaminants is shown in Table A (page 3) of this Statement of Basis.

Condition 3 and Section 13. Visible Emissions Standard

Applicability: The visible emission standard 18 AAC 50.055(a)(1) applies to operation of industrial processes and all fuel-burning equipment in Alaska. Source ID(s) 1 - 25 are fuel-burning equipment.

Factual basis: The condition cites the state visible emission standard applicable to fuel-burning equipment. The Permittee shall not cause or allow the boilers and engines to violate this standard. The monitoring, recordkeeping, and reporting requirements for visible emissions are listed in Section 13 of the permit. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

State air quality regulations adopted effective May 3, 2002 allow for an average six minute opacity observation. The existing regulation, limiting opacity to no more than 20% for more than 3 minutes in any one hour, is included because EPA Region X has not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

There are two options for monitoring visible emissions. One option requires the Permittee to observe visible emissions in accordance with the state reference test method (i.e. 40 CFR 60,

Method-9). The other option requires the Permittee to momentarily observe the exhaust for presence or absence of smoke. This latter option takes into account the difficulty and expense of getting certified readers to remote locations in Alaska.

Gas-fired:

Monitoring – The monitoring of gas-fired sources for visible emissions is waived, i.e. no source testing will be required. The Department has found that Fuel Gas-fired equipment inherently has negligible PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The visible emissions are to be observed by using Method-9 as detailed in Section 13. Corrective actions such as maintenance procedures and either more frequent or less frequent testing may be required depending on the results of the observations.

Recordkeeping - The Permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report: 1) emissions in excess of the federal and the state visible emissions standard and 2) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Dual Fuel-Fired Sources:

For Source ID(s) 10, as long as it operates only on gas, monitoring consists of an annual certification that only gaseous fuels were used in the equipment. When any turbine or diesel fired source operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in condition 64 is required for that source in accordance with recently issued Department Guidance AWQ 02-014. When any of these sources operates on a backup liquid fuel for less than 400 hours in a calendar year, monitoring for that source consists of an annual certification of compliance with the opacity standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Condition 4 and Section 13. Particulate Matter (PM) Standard

Applicability: The PM standard in 18 AAC 50.055(b)(1) applies to operation of all fuel burning equipment in Alaska. Source ID(s) 1 - 25 are fuel-burning equipment. The SIP standard for PM applies to all fuel-burning equipment because it is contained in the federally approved SIP dated October 1983. However, monitoring of flares for the particulate matter is waived, i.e. no source testing will be required, because of the difficulty and questionable results these tests produce when applied to flares. The Department has recognized this fact by incorporating the waiver in the State Implementation Plan adopted in November 1984 which has not been federally approved.

Factual basis: The condition cites the state particulate-matter emission standard applicable to fuel-burning equipment. The monitoring, recordkeeping, and reporting requirements are listed in Section 13 of the permit. The department will use this standard

condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

The requirement to test for particulate matter to determine compliance with the standard is triggered by the results of visible emission observations, conducted in accordance with the state reference test method, only if the results show noncompliance with the visible emission standard or the average opacity.

Gas-fired:

Monitoring – The monitoring of gas-fired sources for particulate matter is waived, i.e. no source testing will be required. The department has found that Fuel Gas-fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed and 2) results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Dual Fuel-Fired Sources:

For Source ID(s) 10, as long as it operate only on gas, monitoring consists of an annual certification that only gaseous fuels were used in the equipment. When any turbine or diesel engine source operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in conditions 66 and 67 is required for that source in accordance with recently issued Department Guidance AWQ 02-014. When any of these sources operates on a backup liquid fuel for less than 400 hours in a calendar year, monitoring for that source consists of an annual certification of compliance with the particulate matter standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Condition 5. Sulfur Compound Emissions

Applicability: The sulfur emission standard in 18 AAC 50.055(c) applies to the operation of all fuel-burning equipment in the State of Alaska. The SIP standard for sulfur dioxide applies because it is contained in the federally approved SIP dated October 1983.

Factual basis: The condition re-iterates a sulfur emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow their equipment to violate this standard. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Diesel Fuel (Fuel Oil): Fuel oil sulfur is measured in weight percent sulfur. Calculation shows that fuel containing no more than 0.75% sulfur will always comply with the emission standard. This is true for all liquid hydrocarbon fuels, even with no excess air. Verification of ASTM fuel grade as No. 1 or No. 2 fuel oil will certify compliance with the standard because these fuel oils always have a fuel sulfur content of no more than 0.5%. For fuels with a sulfur content higher than 0.75%, this condition requires the Permittee to use the equations in Section 15 to calculate the exhaust gas SO_2 concentration, showing whether the standard was exceeded. The equations in Section 15 are all based on stoichiometric mass balance.[11]

Fuel Gas: Fuel gas sulfur is measured as hydrogen sulfide, i.e. H_2S concentration in ppmv by volume. Calculations made by the Department show that fuel gas containing no more than 4000 ppmv H_2S would always comply with the exhaust emission standard of 500 ppmv SO_2. This is true for all fuel gases, even with no excess air. Since the current H_2S concentration in the fuel gas, measured by a length-of-stain detector, is less than 1ppmv the potential for exceeding the state emission standard during the current permit term is negligible. For Unocal facilities in Cook Inlet subject to NSPS regulations the EPA granted Unocal a custom fuel monitoring plan on October 17, 2002 for the current fuel gas source. The Department requirements for meeting ambient standards for SO_2 requires Unocal to burn fuel gas containing no more than 2,000 ppmv H_2S.

The Department approved, at Unocal's request, the alternate less accurate test method for measuring the H_2S concentration since the H_2S concentrations are much less than the concentration that would cause a violation of the 500 ppmv SO_2 emission standard. Equations to calculate the exhaust gas SO_2 concentrations resulting from the combustion of fuel gas are not included in this permit. Fuel gas with an H_2S concentration of even 10% of 4000 ppmv is not projected to be available at the Dolly Varden Platform during the life of this permit.

Conditions 6 - 11. Operating/Construction Conditions Carried Forward

Applicability: The previous Operating Permit 9423-AA012 and Construction Permit 060CP01 Revision 1 contained conditions that must be carried forward to this Title V permit. These conditions contain requirements to protect ambient air, monitor operating hours, and fuel gas operating hours so that emission levels may be calculated for all fuel burning equipment.

Factual Basis: These conditions contain requirements to monitor, record and report fuel sulfur, operating hours, permanent and temporary non-road engines greater than 400 brake horsepower, and operating hours for all sources.

Conditions 12 - 15. NSPS Subpart A Requirements

Applicability: The Department has incorporated by reference the NSPS effective July 1, 2001, for specific industrial activities, as listed in 18 AAC 50.040. However, EPA has not delegated to the Department the authority to administer the NSPS program as of May 2003. At this facility, Source ID(s) 12 and 13 are subject to NSPS Subpart GG and therefore subject to Subpart A.

[11] http://www.state.ak.us/dec/dawq/aqm/newpermit.htm

Factual Basis: Subpart A contains the general requirements applicable to all affected facilities (sources) subject to NSPS. In general the intent of NSPS is to provide technology-based emission control standards.

Conditions 16 - 17 NSPS Subpart GG Turbine NO_x Requirements

Applicability: NSPS Subpart GG applies to stationary gas turbines with a heat input at peak load (maximum load at 60 percent relative humidity, 59 degrees F, and 14.7 psi) equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of the fuels fired and constructed, modified, or reconstructed after October 3, 1977.

Factual Basis: Based on Unocal submittal of vendor's heat input rate the NSPS Subpart GG emission limits for NO_x are 167 ppmv for Source ID 12 and 173 ppmv for Source ID 13. The fuel gas nitrogen monitoring requirement of 40 CFR 60.334(b) has been waived for this stationary source per correspondence from EPA dated October 17, 2002.

The Department does not have enough information to make categorical determinations that certain types of turbines, or turbines with emission test results below a certain percentage of the Subpart GG NO_x emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body of NO_x data is gathered under monitoring conditions for compliance with 40 C.F.R. 60, Subpart GG, the Department may find that it has enough information to make such categorical determinations. In that event, the Department would revise the NO_x monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

These conditions do not include the initial NSPS performance test requirements. If a turbine under this permit is still subject to the performance test requirement of 40 C.F.R. 60.8, a source specific condition will be necessary.

The intent of these conditions is that turbines or groups of turbines be initially tested on a 5-year cycle. If no testing is required during the permit term, and if the same condition were used in the renewal permit initial testing could be on a 10-year testing cycle. After the first testing cycle, the Department intends to re-evaluate the necessary monitoring frequency.

The condition does not state how load must be measured. For some turbines it may be possible to directly measure load as either mechanical or electrical output. For others, it may be necessary to calculate load indirectly based on measurements of other parameters. The Department is not attempting to dictate what method is most appropriate through the permit condition, but should evaluate the adequacy of methods of calculating load based on the load monitoring proposed by the Permittee.

Subpart GG defines “emergency gas turbine” and exempts turbines meeting that definition from the GG emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine, so the Department has added a Method 20 monitoring threshold of 400 hours per 12 month. For turbines expected to operate less than 400 hours the Department has also added recordkeeping for hours of operation. The Department does not intend to require the Permittee to operate a turbine solely for the purpose of testing.

The condition requires testing at a range of loads, consistent with the performance test requirements in Subpart GG, that is, test at 30, 50, 75, and 100 percent load. If testing at these four loads is not reasonable, the condition allows the Permittee to propose to the Department what test loads will be reasonable and adequate, and the Department will have the responsibility to make a finding on that proposal. If EPA has already approved alternative test loads for the initial performance test the Department would allow those test loads if the information that went into that decision were still representative of the turbine operation.

Load measurements or load calculations from load surrogate measurements are for one-hour periods. The intent is to match the averaging period for the test method. Method 20 identifies a number of traverse points that vary with the size of the stack. From these points the tester is to choose at least 8 points for NO_x measurements. The time at each point is to be at least one minute plus the average response time of the instrument. The recorded value is the average steady state response. Presumably, the steady state response would exclude some or all of the response time of the instrument. Three runs are to be done at each test load.

The three runs would represent 24 minutes of measurement time or more. A one-hour average load is therefore a reasonable approximation of a load period corresponding to the test method.

Revision 2 - Condition 17.1 NSPS Fuel Nitrogen Monitoring Waiver of AQ0060TVP01, Rev. 1 was deleted based on Unocal's request on 1/13/2005. Unocal's request is based on 40 CFR 60.334(h)(2) which requires the owner/operator to monitor fuel bound nitrogen <u>if</u> the owner or operator claims an allowance for fuel bound nitrogen. Unocal has not claimed a credit for fuel bound nitrogen.

Condition 18 - NSPS Subpart GG SOx Monitoring, Recordkeeping, and Reporting

Applicability: This condition incorporates NSPS Subpart GG SO_2 emission and sulfur compound limits. The Permittee may not allow equipment to violate these standards. For Unocal facilities in Cook Inlet subject to NSPS regulations, the EPA granted Unocal a custom fuel sulfur monitoring schedule on October 17, 2002 for the current fuel gas source.

Factual Basis*:* Source ID(s) 12 and 13 are subject to the SO_2 emission standards in Subpart GG. Monitoring, recordkeeping, and reporting requirements for this condition are described in NSPS Subpart GG and in an EPA granted custom fuel sulfur monitoring schedule and have been referenced here. No additional monitoring outside of the Subpart GG requirements is necessary to ensure compliance with the NSPS SO_2 standard.

<u>*Monitoring*</u>: Condition 18.1 incorporates NSPS Subpart GG fuel sulfur monitoring requirements.

<u>*Recordkeeping*</u>: The Permittee is required to maintain records of all sulfur monitoring data required by NSPS Subpart GG for five years as set out in 18 AAC 50.350(h)(5).

<u>*Reporting:*</u> NSPS Subpart GG SO_2 custom schedule reporting requirements are incorporated in the permit in condition 18.1. In condition 18.7 the Department requests that a summary report of the results from the monitoring requirements in condition 18.1 be included in the Operating Report required under condition 52.

Conditions 19 - 22 (Section 6). Insignificant Sources

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.055 (a), 18 AAC 50.055 (b)(1), and 18 AAC 50.055 (c)(1) as amended on May 3, 2002.

Factual basis: The insignificant sources section of the permit replaces the 1 MMBtu/hr gas-fired sources exemption of former permits. The regulations require the Permittee to report if an insignificant source becomes significant and certify that their insignificant sources comply with applicable requirements. Insignificant sources must comply with the air pollution prohibitions. These standard conditions restate the regulatory requirement.

Condition 19 requires certification that the sources did not exceed state emission standards during the previous year and did not emit any prohibited air pollution. The general emission standards in conditions 20 through 22 apply to all industrial process fuel-burning equipment.

State air quality regulations adopted effective May 3, 2002 allow for an average six minute opacity observation. The existing regulation, limiting opacity to no more than 20% for more than 3 minutes in any one hour, is included because EPA Region X has not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

Conditions 23 - 26. Owner Requested Conditions to Avoid Classification as a PSD Major Modification.

Applicability: The applicable conditions in Construction Permit 060CP01 Revision 1 are carried forward to this Title V permit. These conditions contain requirements to monitor, source test and record NO_x and CO emission levels to demonstrate the facility does not trigger the PSD increment levels for these air contaminants. The Department modified Construction Permit 060CP01 Revision 1 conditions to reflect completed source testing and subsequently modified monitoring, recordkeeping and reporting conditions included in this operating/construction permit.

Revision 2

Unocal requested Revision 2 August to include a 15 tpy potential emissions increase for NOx from Source ID(s) 13, 14, and 15 in Construction Permit 060CP01, Rev. 2 issued September 21, 2004, into operating permit 060TVP01. The increased potential emissions of carbon monoxide from Source ID(s) 13, 14, and 15 are18.9 tpy.

Factual Basis: These conditions contain requirements to monitor and record and operating parameters to provide an adequate basis for emission estimates and PSD impacts.

Condition 27. Asbestos NESHAP

Applicability: If the Permittee engages in asbestos demolition and renovation, then these requirements may apply.

Factual Basis: The condition restates the prohibition on stack injection (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 28. Halon Recycling and Disposal

Applicability: Applies if the Permittee engages in the recycling or disposal of certain refrigerants.

Factual Basis: The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F, that will apply if the Permittee uses certain refrigerants. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation.

Condition 29. Good Air Pollution Control Practice

Applicability: Applies to all sources, **except** NSPS regulated sources, i.e. Source ID(s) 12 and 13.

Factual basis: The condition requires the Permittee to comply with good air pollution control practices for all sources.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The Department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred.

Condition 30. Dilution

Applicability: Applies to the Permittee because the Permittee must comply with emission standards in 18 AAC 50.

Factual Basis: The underlying regulation is 18 AAC 50.045(a). The requirement prohibits diluting emissions as a means of compliance. In practical terms, dilution only affects compliance when the emissions are being measured. Careful reviews of source test plans and operating conditions should reveal any dilution as a result of the introduction of non-process air into the exhaust.

Condition 31. Stack Injection

Applicability: Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

Factual Basis: The condition prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant

emissions from a stack (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 32. Open Burning

Applicability: [18 AAC 50.335(g), 1/18/97]

The Permittee has requested this condition.

Factual Basis: Extensive monitoring and recordkeeping is not warranted because the Permittee has requested a permit condition to exclude open burning at the facility.

Condition 33. Air Pollution Prohibited

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.110 and 18 AAC 50 346. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 34. Technology-Based Emission Standard

Applicability: Technology Based Emission Standard requirements apply to the facility because the facility contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other "technologically feasible" determinations.

Factual Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activity causes an exceedance of any technology-based emission standard in this permit. The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with condition 50. Excess emission reporting under condition 50 requires information on the steps taken to minimize emissions; the report required under condition 50 is adequate monitoring for compliance with this condition.

Condition 35. Permit Renewal

Applicability: Applies if the Permittee intends to renew the permit.

Factual Basis: The condition restates the regulatory deadlines, citing the specific dates applicable to the facility.

Condition 36. Requested Source Tests

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.220 and 18 AAC 50.345. The department will use this standard condition in any operating permit unless the department

determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Conditions 37 - 39. Operating Conditions, Reference Test Methods and Excess Air Requirements

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.030, 18 AAC 040 and 18 AAC 50.220. These conditions restate regulatory requirements for source testing. As such, they supplement the specific monitoring requirements stated elsewhere in this permit. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 40. Test Exemption

Applicability: Applies when the source exhaust is observed for visible emissions.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 41 - 44. Extension, Test Plans, Notification & Reports

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.345 and 18 AAC 50.346. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 45. Particulate Matter (PM) Calculations

Applicability: Applies when the Permittee tests for compliance with the particulate matter standard.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. The Permittee must use a certain equation to calculate the particulate-matter emission concentration from the source test results.

Condition 46. Certification

Applicability: This State regulation applies to certification of reports because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.205, 18 AAC 50.350 and 18 AAC 50.346. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50. This condition restates the regulatory requirement that

all reports must be certified. To ease the certification burden, the condition allows the excess emission reports to be certified with the semi-annual operating report, although the excess emission reports must be submitted more frequently.

Revision 2 - Based on revision to regulations in 18 AAC 50 which became effective on October 1, 2004, Unocal requested removal of the certification language in condition 46 requiring a notary for the annual compliance certification.

Condition 47. Submittals

Applicability: Applies because the Permittee is required to send reports to the department.

Factual Basis: This condition merely specifies where submittals to the department should be sent. Receipt of the submittal at the correct department office is sufficient monitoring for this condition.

Condition 48. Information Requests

Applicability: This state regulation applies to information requests from the Department because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.200, 18 AAC 50.345 and 18 AAC 50.350. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 49. Recordkeeping Requirements

Applicability: Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 50. Excess Emission and Permit Deviation Reports

Applicability: This state regulation applies because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.235, 18 AAC 50.240, 18 AAC 50.326, and 18 AAC 50.346. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Revision 2- Condition 50 was revised to include revisions to 18 AAC 50 and AS 46.14 adopted on October 1, 2004.

Condition 51. NSPS and NESHAP Reports

Applicability: Applies to facilities subject to NSPS and NESHAP federal regulations because the Permittee is subject tot he requirements in 18 AAC 50.040.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60 and 40 C.F.R. 61.

Condition 52. Operating Reports

Applicability: Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 53. Annual Compliance Certification

Applicability: Applies to all Permittees

Factual Basis: This condition specifies the periodic compliance certification requirements, dues date for the annual compliance certification and require the notarized signature of a responsible official. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Revision 2 - Based on revision to regulations in 18 AAC 50 which became effective on October 1, 2004, Unocal requested removal of the certification language in condition 53.1(d) requiring a notary for the annual compliance certification.

Conditions 54 - 60. Standard Conditions

Applicability: **A**pply because these are standard conditions to be included in all operating permits.

Factual Basis: The underlying regulation is 18 AAC 50.346. These standard conditions meet the requirements under the Clean Air Act for demonstrating general compliance with a Title V permit. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 61. Permit Shield

Applicability Applies because the Permittee has requested a shield for the applicable requirements listed under this condition.

Factual Basis: Table C explains the permit shield requests, which were not granted, and the department's Applicability determination. The permit conditions sets forth the requirements that the department determined were not applicable to the facility, based on the permit application, past operating permit, construction permits and inspection report.

Revision 2- Permit shield provisions were added for the facility which affect incinerators. There are no affected sources at this facility under 40 CFR 60 Subparts BBBB and CCCC and 40 CFR 62 Subparts III and JJJ.

Table C. Permit Shield Decision

Shield requested for:	Shielded	Reason for shield decision
40 C.F.R. 61, Subpart M	No	Removing asbestos makes facility subject to 40 C.F.R. 61
Facility 40 C.F.R. 82, Subparts B & F	No	Facility may contain halon fire fighting equipment.

Conditions 62 - 67. Visible Emissions and PM Monitoring Plan (Fuel Gas and Liquid Fuel)

Applicability: Applies because these conditions detail the monitoring, recordkeeping, and reporting required in conditions 3 and 4.

Factual Basis: Each permit term and condition must include MR&R requirements showing verifiable compliance with each permit term and condition. The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 3 and 4.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas-fired sources. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas-fired sources in Alaska should provide the department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Insignificant Sources:

Unocal amended the Title V Operating permit application in February 2003 certifying that Source ID(s) 18 through 24 are insignificant emission units(IEUs) based on the owner requested limits on operating hours. As long as the source does not exceed the operating hour limit it is insignificant for emissions as specified in 18 AAC 50.335(r) and no monitoring is required in accordance with Department Guidance AWQ 02-014 issued

April 2, 2002. The Permittee must annually certify compliance under condition 52 with the opacity standard.

Condition 68. Visible Emission Monitoring for Flares

Applicability: Apply because these conditions detail the monitoring, recordkeeping, and reporting required in condition 3 for gas-fired flares.

Factual Basis: Monitoring of the flare, Source ID(s) 25, requires Method-9 observations of scheduled flaring events lasting more than one hour. The Permittee must report the results of these observations to the Department.

The original condition for flare monitoring, jointly developed by the Department and the Alaska Oil and Gas Association (AOGA) was originally developed to provide a standardized version of flare monitoring that is not dependant upon the type of upstream treatment equipment. It has been assumed that gas-fired "smokeless" flares normally burn without emitting visible emissions, but actual field data demonstrating this assumption is not available. However, gas-fired flares have been shown to smoke when a control device - a knockout drum, flare scrubber, gas or steam assist, or vapor recovery system-malfunctions. Thus, the original protocol set out a method to collect actual field data to support the "smokeless" assumption and requires corrective action to correct malfunctions.

Since it is impractical to require facilities to have a certified Method-9 opacity reader on site for an unpredictable emergency flare event, the monitoring protocol requires Method-9 readings only during predictable and quantifiable flare events. Predictable and quantifiable events are defined as those generated by scheduled maintenance activities or non-upset modes of operations as well as planned startup and shutdown events.

Record keeping and reporting is designed to facilitate data collection. It is believed that the six daylight observations of "smokeless" flare events in the standard condition should be sufficient to reduce monitoring to a minimum contingent upon the assurance that all control devices are operating acceptably.

Revision 2- The word "daylight" was added to Condition 68 to include conformity of the visible emissions observations at the Dolly Varden Platform with other Unocal platforms in Cook Inlet. The daylight observations are due to the lack of background at night with only Cook Inlet water surrounding the platforms.